

## Methodology for the Calculation of Statewide Relative Prices

January 12, 2017

---

This memorandum describes the final methodology for calculating statewide relative prices (S-RP) pursuant to Section 2TTTT of Chapter 29 of the Massachusetts General Laws, as enacted under Chapter 115 of the Acts of 2016. Pursuant to this statute, the Center for Health Information and Analysis (CHIA) is required to calculate S-RP values for acute care hospitals, and compare these results with the statewide median. Hospitals with S-RP values below 120 percent of the statewide median relative price will be eligible for payments from the Community Hospital Reinvestment Trust Fund. An example S-RP calculation and current S-RP results can be found on CHIA's website accompanying this memorandum.

### Background

Pursuant to M.G.L. c. 29, § 2TTTT, CHIA is required to calculate a median S-RP value and identify acute care hospitals with S-RP scores below 120 percent of the median S-RP value annually. Acute care hospitals with S-RPs below 120 percent of the median are eligible to receive payments from the Community Hospital Reinvestment Trust Fund (CHRTF). Based on CHIA's eligibility determination, the Secretary of the Executive Office of Health and Human Services (EOHHS) shall allocate payments from the CHRTF to eligible hospitals pursuant to the requirements of M.G.L. c. 29, § 2TTTT and any regulation promulgated thereunder.<sup>1</sup>

### S-RP Measure Development

CHIA is required by statute to collect relative price (RP) data from private health care payers<sup>2</sup> operating in the Massachusetts health care market on an annual basis.<sup>3</sup> Defined broadly, RP is an aggregate measure used to evaluate variation in prices for similar providers within individual payer networks. To ensure prices are appropriately compared across providers, RP adjusts for differences in the quantity and types of services delivered by providers and for differences in the types of insurance products carried by each provider's patients. Importantly, different data are provided for inpatient and outpatient care which requires different methods to be used to create a single RP value within each spending category.<sup>4</sup>

---

<sup>1</sup> Commonwealth of Massachusetts. "Chapter 115 of the Acts of 2016: An Act Relative to Equitable Health Care Pricing." May 31, 2016. <https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter115>.

<sup>2</sup> RP data is submitted by the following payers for their commercial lines of business: Aetna, Blue Cross Blue Shield of Massachusetts, BMC HealthNet, Celticare Health, Cigna, Fallon Health, Harvard Pilgrim Health Care, Health New England, Neighborhood Health Plan, Minuteman Health, Tufts Public Plans (formerly Network Health), Tufts Health Plan, UniCare, and United Healthcare.

<sup>3</sup> See 957 Code of Massachusetts Regulations (CMR) 2.00 which governs the methodology and filing requirements for health care payers to calculate and report RP data to CHIA.

<sup>4</sup> For inpatient care, payers provide total payments, total discharges, and the case-mix for their member population. This allows for the calculation of case-mix adjusted payments per discharge. For outpatient care, payers report multipliers on a standard fee

By construction, the network average RP equals 1.0 for each payer network. This measure allows for a relative comparison of each provider's price level compared to different providers within a given payer network in a given year. Providers with RP scores above 1.0 receive higher-than-average prices in a payer's network, and vice versa. However, because RP is specific to each payer's network, RP values are not directly comparable across payers. A provider with a higher RP score for a given payer may not have higher absolute prices for that payer than it has with other payers where its RP score is lower.<sup>5</sup>

To develop a cross-payer S-RP measure, CHIA built upon this conventional RP data and methodology. However, the RP measure does not readily lend itself to the calculation of a statewide metric due to its payer-specific construction and the lack of standardized data components across payers for outpatient payments.<sup>6</sup> This necessitated CHIA's development of a new methodology to calculate S-RP values. In approaching the development of S-RP, CHIA maintained two design principles: (1) the method was to be methodologically sound and leverage the existing framework and core data of the conventional RP method and, (2) the method was to be calibrated to reflect each provider's individual experience to the extent practical.

On November 22, 2016, CHIA issued a proposed S-RP methodology on its website and requested public comment from interested parties. CHIA hosted a webinar on November 29, 2016, to review the proposed methodology and take questions from the public. In addition, CHIA provided each acute care hospital with its own calendar year (CY) 2015 S-RP scores using the proposed methodology. The deadline for providing comments was 5:00pm EST on Wednesday, December 14, 2016.

Based on our review of relative price (RP) data, input from actuarial consultants, discussion with stakeholders, and review of public comments, CHIA is finalizing the proposed S-RP methodology without changes. CHIA considered all comments carefully and appreciates the interest and input from valued members of the health care community.

### **S-RP Measure Methodology**

CHIA's final methodology for calculating S-RP is detailed below.<sup>7</sup> CHIA calculated the S-RP by using payer-specific inpatient product-adjusted ABRs and payer-specific outpatient RP values. For each hospital, CHIA converted these payer-specific values into cross-payer relativities and then blended these inpatient and outpatient values together to achieve a single S-RP value. When blended across payers and across inpatient and outpatient spending categories, CHIA weighted these elements according to the provider-specific share of payments. An example S-RP calculation can be found on CHIA's website accompanying this memorandum.

---

schedule by service categories that are reflective of their contracts with providers, and do not report a volume metric or case-mix index.

<sup>5</sup> Additional information on the methodology for calculating conventional RP can be found in CHIA's RP Methodology Paper available at <http://www.chiamass.gov/assets/docs/r/pubs/16/RP-Methodology-Paper-9-15-16.pdf>.

<sup>6</sup> For outpatient care, neither the fee schedule from which payment multipliers are reported nor the service categories for which payments are allocated according to service mix are standardized across payers.

<sup>7</sup> The calculation of S-RP for the purposes of identifying hospitals that are eligible for payments from the Community Hospital Reinvestment Trust Fund will be based upon data filed from private payers for their commercial lines of business.

For reference, the final measure of a hospital's inpatient price under conventional RP is known as the product-adjusted adjusted base rate (ABR). The final measure of a hospital's outpatient price under conventional RP is known as the product adjusted base service-weighted multiplier. As noted above, CHIA calculated the inpatient cross-payer relativity using product-adjusted ABRs. CHIA calculated payer-specific outpatient RP values using the product adjusted base service-weighted multipliers and then blended the RP values to achieve the outpatient cross-payer relativity. The inpatient and outpatient cross-payer relativities were then blended to calculate the final S-RP. Further background information on the methodological components for calculating conventional RP can be found in CHIA's RP Methodology Paper available at <http://www.chiamass.gov/assets/docs/r/pubs/16/RP-Methodology-Paper-9-15-16.pdf>.

### **Step 1: Calculate Cross-Payer Inpatient Adjusted Base Rates and Outpatient RPs**

#### *Inpatient:*

- a) For each hospital, compute product-adjusted, payer-specific payments per case-mix adjusted discharge (i.e., product-adjusted ABR)
- b) Combine payer-specific product-adjusted ABRs into a single, cross-payer ABR for each hospital using the share of total inpatient payments made by each payer to a given hospital to weight each payer-specific ABR
- c) Compute statewide average ABR as the mean across all hospitals of the cross-payer ABRs calculated in step 1(b)
- d) Calculate the cross-payer inpatient S-RP values for each hospital by dividing the hospital-specific cross-payer ABRs (step 1(b)) by the statewide average cross-payer ABR (step 1(c))

#### *Outpatient:*

- e) For each hospital, compute the payer-specific, product adjusted base service-weighted multipliers<sup>8</sup> - the result will be known as the adjusted rates
- f) Calculate payer-specific outpatient RPs by dividing the payer-specific adjusted rates by the payer-specific network average adjusted rate
- g) Combine the payer-specific RPs into a single, cross-payer RP for each hospital using the share of total outpatient payments made by each payer to a given hospital to weight each RP
- h) Compute the statewide average outpatient cross-payer RP as the mean of the hospital-specific cross-payer RP calculated in step 1(g)
- i) Calculate the cross-payer outpatient S-RP for each hospital by dividing the hospital-specific all-payer adjusted rates (step 1(g)) by the statewide average (step 1(h))

### **Step 2: Calculate Blended Cross-Payer RPs**

#### *Blended (Inpatient and Outpatient combined):*

- a. Calculate the share of cross-payer total payments accounting for inpatient and outpatient services for each hospital

---

<sup>8</sup> This includes the non-claims multiplier.

- b. Using the hospital-specific inpatient and outpatient payment shares calculated in step 2(a) as weights, combine each hospital's all-payer inpatient and outpatient S-RP values (steps 1(d) and 1(i)) – these amounts will be known as the interim blended cross-payer S-RPs
- c. Compute the statewide average of the interim blended cross-payer S-RPs as the mean of the hospital-specific interim blended cross-payer S-RP calculated in step 2(b)
- d. Calculate the final blended cross-payer S-RP for each hospital by dividing the hospital-specific interim blended cross-payer S-RP (step 2(b)) by the statewide average (step 2(c))

### **Step 3: Calculate Median S-RP**

#### *Median S-RP*

- a. Compute the median of the blended cross-payer S-RP values computed in step 2(b) above - this is the median S-RP
- b. Multiply the median S-RP by 1.2 to calculate 120 percent of the median S-RP
  - i. This is the threshold used to determine hospitals' eligibility for payments from the CHRTF under Chapter 115
  - ii. All hospitals below 120 percent of the median S-RP are eligible to receive payments from the CHRTF